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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,745	09/11/2000	Nicholas P. Cowley	P/50609/MARKS	4148

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EXAMINER

TORRES, MARCOS L

ART UNIT

PAPER NUMBER

2683

DATE MAILED: 04/11/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/658,745

Applicant(s)

COWLEY, NICHOLAS P.

Examiner

Marcos L Torres

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1-4, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tumeo in view of Roth.

As to claims 1 and 9, Tumeo discloses a single conversion frequency converter comprising an image reject mixer and a local oscillator (see col. 4, line 58 – col. 5, line

11), said local oscillator comprising a variable frequency oscillator (see col. 6, lines 5-9) and a divider for receiving from said variable frequency oscillator a variable frequency signal and for supplying to said mixer a local oscillator signal whose frequency is equal to a frequency of said variable frequency signal divided by a integer (see col. 5, lines 1-23). Tumeo do not specifically disclose supplying to a variable divider. Roth discloses a variable frequency oscillator connected to a variable divider (see col. 3, lines 25-43). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to add the Roth teachings to the Tumeo system for an accurate variable frequency.

As to claim 2, Roth discloses the converter in with a variable divider (see col. 3, lines 25-43). Roth do not specifically disclose a plurality of divide-by-two stages having respective outputs and a multiplexer having inputs connected to said respective outputs of said divide-by-two stages. However, the admitted prior art disclose a plurality of divide-by-two stages having respective outputs and a multiplexer having inputs connected to said respective outputs of said divide-by-two stages (see page 5, lines 6-10).

As to claim 3, Roth discloses converter in which said variable frequency oscillator is tunable over a frequency range, which is at least one octave (see col. 1, lines 34-48).

As to claim 4, Roth discloses a converter in which said variable frequency oscillator comprises a part of a frequency synthesizer (see col. 2, lines 9-11).

As to claim 7, Tumeo discloses a converter comprising a signal input and a plurality of input stages between said signal input and said mixer (see fig. 3).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tumeo in view of Roth as applied to claims 1-4, 7 and 9 above, and further in view of Yorkanis.

As to claim 5, Tumeo discloses a converter connecting a mixer to a signal source (see col. 4, line 58 – col. 5, line 11). Tumeo do not specifically disclose a non-frequency-selective signal path. Yorkanis discloses a non-frequency-selective signal path (see col. 5, lines 30-50). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine Yorkanis teachings in the Tumeo and Roth modified system for the simple purpose of an enhanced communication.

6. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tumeo in view of Roth as applied to claims 1-4, 7 and 9 above, and further in view of Komatsu.

As to claims 6 and 10, Tumeo discloses a converter with a signal input (see col. 4, line 58 – col. 5, line 11). Komatsu discloses a digital tuner comprising a signal input and an automatic gain control circuit between said signal input and said mixer (see fig. 4). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to add this teaching to the modified Tumeo and Roth system for the simple reason of controlling the amplification of the signal.

7. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tumeo in view of Roth as applied to claims 1-4, 7 and 9 above, and further in view of Abraham.

As to claims 8 and 12, Tumeo discloses everything claimed as explained above except for a converter formed as a single chip integrated circuit. Abraham discloses a converter formed as a single chip integrated circuit (see col. 22, lines 56-57). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to integrate all these components in a single chip for space saving and reduced manufacturing costs.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tumeo in view of Roth as applied to claims 1-4, 7 and 9 above, and further in view of Graczyk.

As to claim 11, Tumeo discloses everything claimed as explained above except for a cable tuner. Graczyk discloses a cable tuner (see fig. 13). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to use a tuner for tuning cable channels.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Ma U.S. Patent 5060297
- b. Sointula U.S. Patent US006091780A
- c. Birleson U.S. Patent US006163684A

Any response to this Office Action should be mailed to:

Commissioner of Patent and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 308-6306

For formal communication intended for entry, informal communication or draft communication; in the case of informal or draft communication, please label "PROPOSED" or "DRAFT"

Hand delivered responses should be brought to:

Crystal Park II
2121 Crystal Drive
Arlington, VA
Sixth Floor (Receptionist)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcos L Torres whose telephone number is 703-305-1478. The examiner can normally be reached on 8:00am-5:30pm alt. friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William G Trost can be reached on 703-305-5318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Marcos L Torres
Examiner
Art Unit 2683

MLT
April 7, 2003


WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600